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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YUNZHANG WANG, DANIEL T. MCBRIDE, and
RANDOLPH S. KOHLMAN

Appeal 2010-002754
Application 10/785,445
Technology Center 1700

Before BEVERLY A. FRANKLIN, KAREN M. HASTINGS, and
DEBORAH KATZ, *Administrative Patent Judges*.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision finally rejecting claims 1-5, 8-27, 32, 33, and 40-45. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

Claim 1 is illustrative of the claimed subject matter¹:

1. A fiber-containing substrate with a first surface and a second surface having integral microscopic surface structures upon at least a portion of at least one of its surfaces, wherein said integral microscopic surface structures have projections substantially normal to the plane of said fiber-containing substrate, said at least one surface comprised of:

(a) portions having a plurality of substantially unbroken fibers comprising surface structures along at least part of the length of said fibers, and wherein said fibers have a Roughness Factor greater than or equal to about 1.10; and

(b) a repellent component selected from the group consisting of fluorocarbon-containing chemicals, silicones, waxes, and combinations thereof; and wherein said integral microscopic surface structures are achieved through exposure of the fiber-containing substrate to mechanical face-finishing which utilizes diamond grit having an average grit size of from about 600 to about 1200.

The Examiner maintains, and Appellants request review of, the following grounds of rejection under 35 U.S.C. §103(a) (Br. 4):

¹ The remaining independent claims 32, 40, and 44 all similarly recite a fiber containing substrate having: "portions having a plurality of substantially unbroken fibers", "a Roughness Factor greater than or equal to about 1.10", "a repellent component", and that are prepared via a finishing process that "utilizes diamond grit having an average grit size of from about 600 to about 1200."

1. claims 1-5, 8-27, 32 and 33 as unpatentable over Otto (US 4,316,928, issued Feb. 23, 1982) in view of Nun (US 2003/0013795 A1, published Jan. 16, 2003);
2. claims 40-45 as unpatentable over the combined prior art of Otto, Nun, and Morrison (US 4,343,853, issued Aug. 10, 1982).

Appellants' arguments in support of patentability are directed to limitations common to the independent claims. (*See* Br. 4-10; e.g., Ans. 5.) We therefore focus on discussion on claim 1 as representative.

Main Issues on Appeal

Did the Examiner reversibly err in determining that the fiber-containing substrate of claim 1 would have been obvious because, as alleged by Appellants,

- a) "Otto fails to teach the use of diamond grit" (Br. 7), or
- b) Otto fails to teach "[portions] having a plurality of substantially unbroken fibers" (Br. 8), or
- c) Otto and Nun are not "from the same field of endeavor" (Br. 8) such that there is no motivation or apparent reason to combine the references (Br. 9)?

Opinion

We have considered each of the issues raised by Appellants, but are not convinced of reversible error in the Examiner's obviousness determination for substantially the reasons aptly set forth by the Examiner in the Answer, including the Response to Argument section. We add the following primarily for emphasis.

Claim 1 is directed to the product of a fiber-containing substrate. The recitation of a "mechanical face-finishing which utilizes diamond grit" is a product by process limitation. It has been well established that, when a product recited in product-by-process format reasonably appears to be the same as or obvious from a product of the prior art, the burden is on applicant to show that the prior art product

is in fact different from the claimed product, even though the products may be made by different processes. *In re Thorpe*, 777 F.2d 695, 697 (Fed. Cir. 1985).

We agree with the Examiner that with respect to the product of claim 1, Appellants have not met their burden to show that mechanical face finishing by the use of a diamond grit of grit size 600 results in a patentably distinct product over a product mechanically finished by the use of sandpaper of a grit size of 600 as exemplified in Otto in a process of preparing the Otto/Nun product (*see Ans.* 6-9; *generally Br.*; no responsive brief has been filed). *See In re Thorpe*, 777 F.2d at 697. Arguments and conclusions unsupported by factual evidence carry no evidentiary weight. *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); *In re Lindner*, 457 F.2d 506, 508 (CCPA 1972).²

Likewise, Appellants have not provided any persuasive technical rationale or evidence to rebut the Examiner's reasonable position that Otto's fabric and the resultant Otto/Nun fabric would possess portions "having a plurality of substantially unbroken fibers" (*see, e.g.*, *Ans.* 10), especially as this language encompasses as few as two portions of undefined areas having as few as two substantially unbroken fibers.

Appellants' contention that the ordinary artisan would not have been motivated to combine Otto and Nun (App. Br. 9) because Nun is non-analogous art is likewise unavailing. In order for an examiner to rely on a reference as a basis for rejection, the reference must be "either in the field of the applicant's endeavor or reasonably pertinent to the problem with which the inventor was concerned." *In re Kahn*, 441 F.3d 977, 987 (Fed. Cir. 2006); *see also, In re Clay*, 966 F.2d 656,

² It also appears that Appellants are in the best position to provide such evidence as Otto shares a common assignee with the present case on appeal (that is, Milliken Research Corporation, now Milliken & Company).

658-59 (Fed. Cir. 1992) (A reference in a different field from that of the inventor's endeavor is still reasonably pertinent if the matter with which it deals "logically would have commended itself to an inventor's attention in considering his problem.").

The Examiner pointed out that both Otto and Nun are both directed to the treatment of fabrics (Ans. 6, 11). In further response to Appellants' argument, the Examiner also stated that "[i]t is readily apparent that textile fabrics [such as Otto] would benefit from becoming self-cleaning [by adding a repellent coating as exemplified in Nun for umbrellas and other objects] in that they would be soil and liquid resistant [as taught by Nun]" (Ans. 10-11). Appellants have not explained why these findings are insufficient to establish that the ordinary artisan would have considered both Otto and Nun in attempting to provide a textile having self-cleaning properties (Spec. 1:9-10; noting no responsive brief has been filed). Appellants have also not explained why the ordinary artisan would not have possessed the requisite skills to modify Otto's fabric to be water repellent. An improvement in the art is obvious if "it is likely the product not of innovation but of ordinary skill and common sense." *KSR Int'l. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007). *See also, Perfect Web Technologies, Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009) ("hold[ing] that while an analysis of obviousness always depends on evidence that supports the required *Graham* factual findings, it also may include recourse to logic, judgment, and common sense available to the person of ordinary skill that do not necessarily require explication in any reference or expert opinion.")

Appellants' argument that there is no reasonable expectation of success in combining Otto and Nun (Br. 9-10) are likewise unavailing for reasons set forth by the Examiner (Ans. 11). "For obviousness under § 103, all that is required is a

reasonable expectation of success.” *In re O’Farrell*, 853 F.2d 894, 903-04 (Fed. Cir. 1988)(citations omitted); *see also, PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1364 (Fed. Cir. 2007) (*quoting Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1367–69 (Fed. Cir. 2007) (“[T]he expectation of success need only be reasonable, not absolute.”)).

In sum, Appellants’ arguments are not persuasive of error in the Examiner’s obviousness determination because Appellants have not convincingly shown it was unreasonable for the Examiner to find that Otto reasonably appears to disclose a fabric with portions having a plurality substantially unbroken fibers, with a Roughness Factor as claimed, and to then conclude that one of ordinary skill in the art would have been motivated to provide a repellent component as exemplified in Nun to a fabric as exemplified in Otto.

Appellants do not present any further arguments specific to claims 40-45, and relies upon arguments specific to the first ground of rejection (Br. 11; “Morrison fail[s] to provide for these deficiencies [of Otto and Nun]”).

Accordingly, we affirm the Examiner’s decision to reject all the claims on appeal.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1).

AFFIRMED

kmm